REMARKS

This amendment is responsive to the Office Action of September 6, 2007. Reconsideration and allowance of claims 2-8 and 11-20 are requested.

The Office Action

Claims 1, 2, and 8-10 stand rejected under 35 U.S.C §102(b) as being anticipated by Lingren, et al. (EP 1249713).

Claim 3 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Lingren.

Claims 4-6, 11, 12, and 18-20 stand rejected under 35 U.S.C §102(b) as being anticipated by Lingren, or in the alternative under 35 U.S.C. §103(a) as being obvious over Lingren.

Claim 7 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Lingren in view of Chu, et al. (US 2004/0080952).

Claims 13 and 14 stand rejected under 35 U.S.C. §102(b) as being anticipated by Orava, et al. (U.S. Patent No. 5,955,733), or in the alternative, under 35 U.S.C. §103(a) as being obvious over Orava.

Claims 15 and 17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Orava in view of Lingren.

Claim 16 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Orava in view of Lingren, in further view of Chu.

The declaration has been objected to as containing a signature that does not appear in the "inventor's signature" line.

Claims 1-12 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

Claims 9-13 stand rejected under 35 U.S.C. §112, second paragraph as being indefinite.

Claim 6 has been objected to as lacking antecedent basis for the term "aligning means."

Claim 17 has been objected to as lacking antecedent basis for the term "the collimator."

The References of Record

Lingren is exemplary of the acknowledged prior art discussed on pages 1 and 2 or the present application and suffers from the described alignment problems. In Lingren, an array of CZT crystals **210** is attached to a circuit carrier **214** via a connection plate **230**. The circuit carrier **214** includes conducting pins **240** that engage a substrate with complimentary holes for the pins **240**. A common problem is that the conducting pins **240** are typically fabricated of copper or other conductive metal which is typically relatively soft and can bend during insertion. Lingren, like the acknowledged prior art, lacks a mechanism for ensuring detector element alignment.

Orava discloses a similar device for removably mounting detectors **20** to a support **22**. The detector assembly includes conductive bumps **5** that engage complimentary divots 7 in the support.

The Present Application

The present application describes a method and apparatus for mounting an array of detectors **46** to a socket **44**. The socket includes additional **rigid** pins for the purposes of accurately aligning the socket to a circuit board **40**, even when/if the softer, electrically conductive pins bend during mounting. A collimator **24** is precisely aligned over multiple detector arrays **46** by a collimator frame **58**. The frame **58** includes pin holes that align it to the circuit board **40**, thus aligning the collimator **24** to the detector arrays **46**.

The §112 Rejections

The Examiner has rejected claim 1 et seq. regarding use of the term "socket." As the structure **44** forms a holder for, among other things, the crystal array **46**, the Applicant respectfully submits that "socket" is an appropriate descriptor, as it is typically defined and does not require explicit re-definition. The Applicant respectfully requests that the Examiner withdraw the §112 rejections regarding the use of the word socket. The Applicant is concerned that changing socket to platform might be considered new matter. If the Examiner is sure that this change does not involve new matter, the Applicant would be amenable to an Examiner's Amendment

to this effect. Claims 9 and 13 have been amended to address the issues raised by the Examiner. It is submitted that defining soft in terms of the potential for bending during insertion is definite.

The Claim Objections

With respect to the Examiner's objection to claim 6, the term "aligning means" finds antecedent basis in claim 4, where it is previously recited.

With respect to the Examiner's objection to claim 17, the first instance of "the collimator" has been changed to "a collimator."

Objections to the Specification

Regarding the use of the term "substrate," when first indicated, element **40** is recited as a "substrate or a circuit board." (page 4, lines 23-24). It is therefore respectfully submitted that later references to element **40** can properly be either "substrate" or "circuit board."

Figure 1 has been amended such that reference numerals in the specification now match the figure. A substitute sheet for FIGURE 1 is included herewith. An early indication of the acceptability of the drawings as amended is earnestly solicited.

The Claims Distinguish Patentably Over the References of Record

Claim 2 calls for a socket alignment structure that includes rigid pins. Lingren fails to disclose or reasonably suggest using **rigid pins** to align the detector array with the circuit board. The electrical connection pins of Lingren correspond to the claimed "electrical connectors." Lingren has no additional structure corresponding to the claimed alignment pins. It is therefore respectfully submitted that **claim 2** is not anticipated by Lingren and it and **claims 3-9** dependent therefrom distinguish patentably and unobviously over the references of record.

Claim 3 calls for the rigid pins not to be used for carrying signals. In Lingren, all pins are for signal carrying.

Claim 4 calls for a frame and an aligning means for aligning the frame and the circuit board. Lingren fails to disclose a frame for aligning the collimator.

The "housing" that Lingren references in paragraphs [0032] and [0033] is meant for blocking scattered radiation and light from reaching the detector. (Lingren, page 6, line 29) The lead shield is not described by Lingren as having any alignment function and because it is lead, a very soft metal, it would be ill-suited to such a use. Moreover, Lingren describes no interaction between the lead shield and the structure **205**. The frame of the present application, in contrast, aligns the collimator with the circuit board and the detector elements. It is not a housing that encases the entire detector assembly, as in Lingren. In Lingren, the collimator **205** is part of the detector assembly and would not be positioned by lead shielding. Although patentable by virtue of its dependency on claim 2, it is also respectfully submitted that **claim 4**, and **claims 5-7** dependent therefrom further distinguish patentably and unobviously over the references of record.

Claim 7 addresses a solution for thermal dilation. Lingren does not even recognize this problem, much less suggest a solution.

Claim 11 calls for a collimator mounting means that includes a frame that is aligned to the circuit board and thus also aligned to the detector arrays. Lingren fails to disclose a mounting frame. The housing of Lingren is meant to shield the detector from scattered radiation. It is therefore respectfully submitted that **claim 11** and **claim 12** dependent therefrom distinguishes patentably and unobviously over the references of record.

Claim 13 calls for rigid alignment pins that fit into alignment holes of the same cross-section and electrically conductive pins. Orava uses bump contacts **5**, which are held in contact with spherical seats **7** by a suction. It is therefore respectfully submitted that **claim 13** is not anticipated by Orava and that it and claims **14-17** dependent therefrom distinguish patentably and unobviously over the references of record.

Claim 15 further adds a collimator alignment frame. Lingren does not disclose or fairly suggest using a frame to align a collimator. Claim 16 addresses a cure for thermal dilation. Neither Chu nor the other references recognize this problem, much less set forth any structure or motivation for addressing it. Chu addresses a series of hooks and holes for snapping on a bezel and provides no structure for aligning a collimator while addressing thermal dilation. Claim 17 calls

for the collimator to be a rectangular grid which overlaps the interfaces. By contrast, the collimator 205 of Lingren is a pin hole collimator [0027]. Accordingly, it is submitted that **claims 15-17** distinguish patentably over the references of record.

Claim 18 calls for a collimator alignment mechanism. As discussed previously with regard to claim 4, Lingren fails to disclose a collimator alignment mechanism. It is therefore respectfully submitted that **claim 18** and **claims 19-20** dependent therefrom distinguish patentably and unobviously over the references of record.

Replacement Drawings

The Applicant is enclosing a Replacement drawing for FIGURE 1 that cures the reference number mismatch, which the Examiner previously noted.

Declaration

A Declaration which has been re-executed by inventor John Vesel in accordance with the request of the Examiner is enclosed.

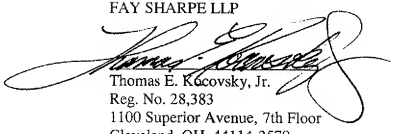
CONCLUSION

For the reasons set forth above, it is submitted that claims 2-8 and 11-20 distinguish patentably over the references of record and meet all statutory requirements. An early allowance of all claims is requested.

In the event the Examiner considers personal contact advantageous to the disposition of this case, she is requested to telephone Thomas Kocovsky at (216) 861-5582.

Respectfully submitted,

FAY SHARPE LLP



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